

ABSTRACT

A system includes a device for focusing electromagnetic waves, and a multiple-beam antenna. The antenna includes: a photonic bandgap material (20) having at least one band gap, at least one periodicity defect (36) of the photonic bandgap material so as to produce at least one narrow bandwidth within the bandgap material, and excitation elements (40 to 43) for transmitting and/or receiving electromagnetic waves within the at least one narrow bandwidth, the elements being arranged relative to one another so as to produce overlapping radiating spots.